

DERWENT-ACC-NO: 1992-370610  
DERWENT-WEEK: 199950  
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TITLE: Water and oil repellent compsn. having high repellency even after washing or dry cleaning treated clothing - comprises copolymer consisting of polymerisable cpd. contg. poly:fluoroalkyl gp. and polyfunctional acrylate! having urethane bond

PATENT-ASSIGNEE: ASAHI GLASS CO LTD[ASAG]

PRIORITY-DATA: 1991JP-0056127 (February 27, 1991)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES
MAIN-IPC			
JP 2968366 B2	October 25, 1999	N/A	008
C09K 003/18			
JP 04272988 A	September 29, 1992	N/A	006
C09K 003/18			

APPLICATION-DATA:

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APPL-DATE			
JP 2968366B2	N/A	1991JP-0056127	
February 27, 1991			
JP 2968366B2	Previous Publ.	JP 4272988	N/A
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ABSTRACTED-PUB-NO: JP 04272988A

BASIC-ABSTRACT: The compsn. comprises a copolymer consisting of 100 pts. wt. polymerisable cpd. (P) contg. a polyfluoroalkyl gp. and 1-10 pts. wt. polyfunctional acrylate or methacrylate hvaing a urethane bond, of formula (1).

$(CH_2=CR_1COO)nR_2OCONHR_3NHCOOR_4(OCOC(R_1)=CH_2)_m$  (1).

In (I)  $R_1 = H$ , or  $CH_3$ ;  $R_2 =$  residue excluding  $(n + 1)$  OH gps. from  $(n + 1)$ -hydric alcohol;  $R_3 =$  residue excluding 2 or 3 NCO gps. from 2- or 3-functional polyisocyanate;  $R_4 =$  residue  $(m+1)$  OH gps. from  $(m+1)$ -hydric alcohol;  $n + m = 2-6$ .

(P) is a  $R_f$  gp.-contg. (meth)acrylate such as  $CH_2=C(R_1)COOCH_2CH_2R_f$ ,  $CH_2=C(R_1)COOCH_2CH_2N(C_3H_7)COR_f$ ,  $CH_2=C(R_1)COOC(CH_3)HCH_2R_f$ ,  $CH_2=C(R_1)COO-CH_2CH_2N(CH_3)SO_2R_f$ ,  $CH_2=C(R_1)COOCH_2CH_2N(CH_3)COR_f$ ,

$\text{CH}_2=\text{C}(\text{R}_1)\text{COOCH}_2\text{CH}_2\text{N}-(\text{C}_2\text{H}_5)\text{SO}_2\text{Rf}$ ,  $\text{CH}_2=\text{C}(\text{R}_1)\text{COOCH}_2\text{CH}_2\text{N}(\text{C}_2\text{H}_5)\text{CORf}$ ,  
 $\text{CH}_2=\text{C}(\text{R}_1)\text{COOCH}_2\text{CH}_2\text{N}(\text{C}_3\text{H}_7)\text{SO}_2\text{Rf}$ ,  $\text{CH}_2=\text{C}(\text{R}_1)\text{COOC}(\text{CH}_2\text{Cl})$   
 $\text{HCH}_2\text{OCH}_2\text{CH}_2\text{N}(\text{CH}_3)\text{SO}_2\text{Rf}$   
(where Rf = polyfluoroalkyl gp.).

USE/ADVANTAGE - The compsn. is used for giving water and oil repellency to fabrics, leather prods., furs, etc.. The compsn. has higher durability than a convention compsn..

In an example, a stock soln. of an emulsion (solid matter content: 20%) of the latex for the water and oil repellent was prepd. by polymerisation of 120g perfluoroalkyl acrylate. ( $\text{RfCH}_2\text{CH}_2\text{OCOCH}=\text{CH}_2$ ), 4g acrylate having urethane bond ( $\text{R}_1 = \text{H}$ ,  $\text{R}_2 = -(\text{CH}_2)_2-$ ,  $\text{R}_3 = -(\text{CH}_2)_6-$ ,  $\text{R}_4 = -(\text{CH}_2)_2-$ ,  $m = m = 1$  in formula (1)), 76 g 2-ethylhexyl methacrylate, 10 g polyoxyethylene lauryl ether, 2 g stearyltrimethylammonium chloride, 120 g (60 wt. pts.) acetone, 350 g water and 1 g 'VA-061' (RTM: azobis(dimethylene- isobutyramidine). The stock soln. of emulsion was diluted with water so as to give 1.5 wt.% to water. Nylon taffeta cloth was dipped in this solution and water was squeezed out from the cloth.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS:

WATER OIL REPEL COMPOSITION HIGH REPEL EVEN AFTER WASHING DRY CLEAN TREAT CLOTHING COMPRISE COPOLYMER CONSIST POLYMERISE COMPOUND CONTAIN POLY FLUOROALKYL GROUP POLYFUNCTIONAL POLYACRYLATE URETHANE BOND

DERWENT-CLASS: A14 A82 A87 F06 G02

CPI-CODES: A04-A03; A04-B09; A04-E10D; A12-G03; F03-C02; F03-C02A; G02-A05;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 0272U; 1740U ; 1844U ; 5341U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0007 0009 0013 0036 0203 0209 0210 0211 0224 0231 0495  
0496 0502  
0503 0566 0600 0601 0970 0971 1172 1173 1235 1236 1279 1283 1588 2002  
2014 2024  
2066 2105 2122 2123 2318 2344 2386 2413 2422 2430 2434 2440 2528 2545  
2608 2609  
2657 2723 2729 2821 3062 3063 3240 3249 3251 3282  
Multipunch Codes: 014 032 04- 371 376 476 51& 623 629 014 028 030 034  
04- 05-  
062 063 064 074 076 077 081 085 090 130 133 135 137 141 145 147 198 231

240 264  
265 27& 28& 31- 316 336 371 376 395 402 408 409 42- 428 431 432 436 44&  
440 445  
477 481 483 51& 52& 53& 532 533 534 535 541 546 548 549 597 598 664 667  
679 681  
688 691 720  
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